

**ABSTRACT**

The present invention relates to radioimmunoconjugates useful in targeted radioimmunotherapy and methods of treating a patient using radioimmunoconjugates. The radioimmunoconjugates of the present invention comprise an alpha- or beta- emitting radioisotope and a binding site linked to or on an antigen-binding fragment of an antibody which specifically binds to a tumor-associated antigen. The methods of treating a patient can include administering one or more clearing agents to the patient in conjunction with the radioimmunoconjugate of the present invention, as well as subsequently grafting bone-marrow or autologous stem-cells to the patient.